

**Remarks**

**Rejection Pursuant to 35 U.S.C. § 103(a) Over Newman et al. (US 6,054,205) in view of Mathieu (US 6,187,409) Galer (US 4,450,022) Canada (CA 2006149) and Berke et al. (US 5,753,368) and the citation of *KSR INTERNATIONAL CO. v. TELEFLEX INC. ET AL.***

In summary of the discussion of record the cited prior art disclosures will now be summarized.

Galer teaches a method of using a riser 25 (riser 25 of a step 24) to promote a layer of concrete mix to penetrate a disclosed “network” (mesh, scrim or fabric), and then to form a skin on the bottom side of the network. However, Galer’s riser 25 does not address the need or problem, “promoting penetration through the thin, porous nonwoven web by a portion of the layer of hydraulic cementitious material to form the cement skin adjacent to the outer face by having the thin, porous nonwoven web comprise alkali resistant polymer fibers coated with a hydrophilic material, ” as recited in Applicant’s claims.

Newman et al.’s written description describes the subject matter in Fig. 6 in such a manner, that a slurry 76 or slurry 93 does not penetrate upwardly through the facing sheet 10 to form a cement skin on the top surface of the facing sheet 10. Gravity causes two slurries 76 and 93 to fall away from facing sheet 10, and thus, the slurries 76 and 93 do not penetrate upward to form a cement skin. See Newman, column 9 lines 46-49. A third slurry 91 is added on a top surface of the facing sheet 10, instead of penetrating through the facing sheet 10 from below and forming on the top surface. Applicant’s method claims recite steps (b) and (d), which require the recited slurry to penetrate a mesh according to step (b) and to penetrate through a thin, porous nonwoven web according to step (d) and form a cement skin. The third slurry 91 of Newman et al. differs, since the third slurry 91 stays on top of the web to form a skin, and does not penetrate through the web. Newman et al. does not perform both of Applicant’s steps (b) and (d). Similarly, two slurries 76 and 93 can not form a skin, since Newman et al. discloses that gravity causes the two slurries to fall away from facing sheet 10. Fig. 6 shows a bottom facing sheet 72 without a cement skin, and the written description does not describe the bottom facing sheet 72 as having a cement skin.

The Advisory Action cites *KSR INTERNATIONAL CO. v. TELEFLEX INC. ET AL* for the principle that any need or problem known in the field of endeavor at the time of the invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.

The Court further states at page 4 of the slip opinion of the Supreme Court of the United States:

“Moreover, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person’s skill. A court must ask whether the improvement is more than the predictable use of prior-art elements according to their established functions.

At pages 4 and 5, the slip opinion states, “Although common sense directs caution as to a patent application claiming as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the art to combine the elements as the new invention does.”

At page 5 the slip opinion states, “The Circuit first erred in holding that courts and patent examiners should look only to the problem the patentee was trying to solve. Under the correct analysis, any need or problem known in the field and addressed by the patent can provide a reason for combining the elements in the manner claimed.”

Accordingly, the slip opinion as quoted above establishes a principle that a rejection is properly based when (two) known devices are in a combination according to their established functions and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way.

Applying the slip opinion to the facts herein, neither Canada (CA 2206149) nor Mathieu disclose that their “known devices” according to their “established functions” would form a cement skin. Further, Applicant’s claims recite, “(d) penetrating through the thin, porous nonwoven web by said portion of the layer of hydraulic cementitious material to form the cement skin...”. Canada can not form a cement skin since cement is expressly excluded from penetrating

entirely through the Canada device even when the device is treated with a polymer (wetting agent). Canada teaches a fabric individually. Such a fabric of Canada is only partially penetrated by cementitious material, and the cementitious material does not form a cement skin. More discussion of Canada appears below. The Advisory Action states that Applicant's argument is not persuasive (pertaining to Berke et al. in combination with the other cited references). The Advisory Action states, "One of ordinary skill in the art is appraised by Canada that even when partial embedment of fibers of a fabric in cementitious material is desired, a wetting agent should be applied to the fabric (pages 13-14). Canada teaches that use of a 'wetting agent' on fabric permits the composition to penetrate the fabric and results in a stronger bond." Underline emphasis added. Further, the Advisory Action states, "Applicant argues that a cementitious composition does not penetrate through Canada's porous fabric. ...Contrary to applicant's arguments, Canada's cementitious material penetrates the fabric." In response, it appears that the Final Rejection is pointing out that Canada teaches penetration by cementitious material, while Applicant's remarks refer to penetration through, which is a subtle distinction. Accordingly, Applicant supplements its previous remarks by pointing out, in Canada a cementitious composition does not penetrate through a porous fabric 14 and form a cementitious skin, even when the porous fabric 14 is treated with a polymer (wetting agent) such as the polymer of Canada or the wetting agent of Berke. Further discussion now follows.

Page 5, lines 1-9 of Canada states, "The process described herein is capable of producing concrete products, including panels ... with reinforcing layers on their exterior surfaces. Because the reinforcing layers are substantially exposed ...decorative coatings such as paint can generally be applied... with relative ease." Further, at Page 5, lines 10-24, "According to one aspect of the present invention, a process for the manufacture of concrete products includes arranging a surface reinforcing layer of porous material... selected from the group consisting of fabric and moisture-resistant paper, ... and having an inner surface coated with a polymer so the applied polymer penetrates the layer of material. A ...cementitious composition is cast over the layer of material....This composition has a consistency that enables it to partially, yet substantially penetrate the layer of material." Underline emphasis is added to indicate that the cementitious

composition partially penetrates, but does not penetrate through the layer of material and form a cementitious skin.

Further, Canada discloses at Page 13, lines 1-3, “The next step is to coat the inner surface 24 of the fabric or paper layer with a suitable polymer 26 that should penetrate the layer.”

Canada states, at page 14, lines 10-21, “Figure 5 illustrates the casting of a layer 32 of a cementitious composition. ... This casting step should take place before the polymer coating 26 has dried so that the polymer can assist in the penetration of the cementitious composition.”

Canada states at page 9, line 29- page 10, line , “In order to provide a secure and durable bond... the cementitious composition, the porous fabric, and the polymer material are selected and applied so as to permit and enable the cementitious composition partially and substantially to penetrate each of the surface-reinforcing layer in the manner illustrated in Figure 90.” Underline emphasis is added to indicate that the cementitious composition partially penetrates, but does not penetrate through the layer of material and form a cementitious skin. Canada states, at page 11, lines 14-16, “Preferably the fabric also provides a suitable finished surface to the final product in order to enable a decorative or finish coat, such as paint, to be applied to it.” Canada discloses At page 17, lines 15-24,, “Preferably the panel 10 is again coated with polymer 52 to form surface coatings 53 and 54. .... The additional coatings 53 and 54 on the exposed surfaces of the layers 14 and 16 [fabric layers 14 and 16]... enables a better bond between the fabric layer and a final decorative or protective coating such as paint.” Underline emphasis added. Thus, Canada discusses that the exposed surfaces of the fabric layer of Canada are to be painted. they can not be painted if a cement skin is present. Thus, Canada excludes an interpretation that the fabric layer is constructed in a manner that cementitious material has penetrated through the fabric layer and forms a cement skin, even when the fabric layer is treated with a polymer of Canada or the wetting agent of Berke et al. Canada can not teach a method of promoting penetration of a cementitious material through a thin, porous nonwoven web to form a cement skin, when the Canada method expressly states that the layers 14 and 16 [fabric layers] have “exposed surfaces” for additional coatings 53 and 54 the enable a better bond between the fabric layers and paint.

The Advisory Action states, “Also, note Canada’s disclosure that ‘[o]ne significant factor affecting penetration is the consistency of the cementitious composition. Preferably the consistency is selected so as to permit the cementitious composition to penetrate at least one half of the thickness of the fabric layer.’” Thereby, the Advisory Action indicates wherein Canada teaches a cementitious composition that penetrates at least one half of the thickness of the fabric, but does not indicate where Canada would teach penetration through the fabric layer and forming a cementitious skin. Canada teaches, “The additional coatings 53 and 54 on the exposed surfaces of the layers 14 and 16 [fabric layers]... enables a better bond between the fabric layer and a final decorative or protective coating such as paint.” Underline emphasis added. Thus, Canada discusses that the exposed surfaces of the fabric layer of Canada are to be painted, and as such, excludes an interpretation that the fabric layer is constructed in a manner that cementitious material has penetrated through the fabric layer and forms a cement skin. Canada discloses, at page 8, “Figure 9 is a sectional detail showing the manner in which the cementitious composition penetrates the porous material.” Page 9, lines 1-3 of Canada states, “The central core 12 is covered on both its major surfaces with surface-reinforcing layers 14 and 16 of a porous fabric or moisture-resistant paper integrally bonded to the central core layer on opposite sides thereof.” (Underline emphasis added) Thereby, Canada discloses that cementitious material, core 12, is covered on both its major surfaces by porous fabric layers 14 and 16. Further, Fig. 9 expressly discloses an absence of a cementitious skin on fabric layers 14 and 16. A cement skin is not present. Moreover, Canada does not teach a combination of a mesh and a thin, porous nonwoven web. If a wetting agent treated fabric of Canada is not penetrated through by cementitious material and forming a cement skin, then Canada can not teach a combination of a mesh and a thin, porous nonwoven web that is penetrated through by cementitious material and forming a cement skin, even when combined with the wetting agent of Berke et al. Thereby, Canada’s disclosure is not contrary to Applicant’s arguments that Canada does not teach penetration through a fabric and forming a cementitious skin.

The Final Rejection cites Canada (CA 2006149), wherein Canada teaches that a cementitious composition does not penetrate through a porous fabric 14 (page 12, line 16) and

form a cement skin, even when the porous fabric 14 is treated with a polymer (the “wetting agent” according to the Advisory Action) to reduce viscosity of the cementitious composition. Thus, the porous fabric of Canada is constructed in a manner that does not allow penetration through the porous fabric, even when the porous fabric is treated with a polymer to reduce viscosity of the cementitious composition. Canada can not combine with the other references to teach a method of promoting penetration of a cementitious material through a thin, porous nonwoven web of a combination of the web and a mesh, to form a cement skin, when the Canada method expressly does not allow penetration through a porous fabric even when treated by a polymer (the “wetting agent”). Mathieu does not recognize whether or how a cement skin can form. Thereby, neither Canada or Mathieu addresses the problem of forming a cement skin, which is unlike the judicially recognized (slip opinion) combination of two “known devices,” according to their “established functions” and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way. Moreover, a person of ordinary skill in the art would recognize that the teachings of Canada and Mathieu do not include cement skins as “known devices,” and thereby, to form a cement skin which is absent from Canada and Mathieu would require an inventive step beyond the skill of such a person and beyond the “known devices” of Canada and Mathieu “according to their established functions.”

At page 5 the slip opinion states: “Second, the appeals court erred in assuming that a person of ordinary skill in the art attempting to solve a problem will be led only to those prior art elements designed to solve the same problem. The court wrongly concluded that because Asano’s primary purpose was solving the constant ratio problem, an inventor considering how to put a sensor on an adjustable pedal would have no reason to consider putting it on the Asano pedal. It is common sense that familiar items may have obvious uses beyond their primary purposes, and a person of ordinary skill often will be able to fit the teachings of multiple patents together like pieces of a puzzle. Regardless of Asano’s primary purpose, it provided an obvious example of an adjustable pedal with a fixed pivot point, and the prior art was replete with patents indicating that such a point was an ideal mount for a sensor.” [Underline emphasis added.]

At pages 5 and 6, the slip opinion states, “Third, the court erred in concluding that a patent claim can not be proved obvious merely by showing that the combination was obvious to try. When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to success, it is likely the product not of innovation but of ordinary skill and common sense.” [Underline emphasis added.]

Accordingly, the slip opinion as quoted above applies “common sense” that “familiar items” may have “obvious uses,” and Asano provided an “obvious example” of an adjustable pedal with a fixed pivot point, and the prior art was replete with patents indicating that such a point was an ideal mount for a sensor. Further, “identified, predictable solutions” are known options to pursue by one of ordinary skill in the art. However, Canada or Mathieu can not provide a “common sense” or “obvious example” of a cement skin when there is a complete absence of such an example in Canada or Mathieu. Mathieu, at column 16, lines 43-47 provides the “familiar items” of a mesh or scrim cemented or imbedded in a face or surface, but does not provide an “obvious example” of a cement skin. Canada, at page 5, lines 6-9, provides the “familiar items” of concrete products with reinforcing layers substantially exposed, and accordingly, can not provide an “obvious example” of a cement skin. The “identified, predictable solutions” of Canada and Mathieu “have been pursued” by the respective patentees thereof. However, no “obvious example” of a cement skin is produced by Canada and Mathieu.

Moreover, the references Galer and Newman et al. manufacture a cementitious board having the same “familiar items” ( cementitious material and a mesh or scrim) as taught by Canada and Mathieu. In addition, Galer and Newman et al. teach that an “obvious example” of a cement skin is formed by providing “identified, predictable solutions,” by using a riser 25, or by using a third slurry 91, respectively. Canada or Mathieu do not teach the formation of a cement skin by any “identified, predictable solutions” except by using a riser 25 or a third slurry 91 taught by Galer and Newman et al., respectively. And Applicant’s recited method is different from using a riser 25 or a third slurry 91 to produce a cement skin.

With regard to Berke et al., the reference teaches a mixture of cement and individual fibers treated with a wetting agent to disperse the individual fibers in the mixture. The common sense approach according to the slip opinion would apply to exclude Berke et al. from relevance to Applicant's claims. Common sense not displaced by intellectual argument should be applied to determine whether "known devices" or "obvious predictable solutions" in Berke et al. are obvious teachings for that which is recited in Applicant's claims. Berke et al's "known devices" or "obvious predictable solutions," refer to individual fibers treated with a wetting agent for dispersal in a cement mixture. By application of common sense, such known devices or obvious predictable solutions of Berke et al. are not obvious teachings of Applicant's recitation of promoting the formation of a cementitious skin.

Respectfully submitted,

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September 4, 2007  
(Date)

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